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Soviet Nondivisional Artillery: Organization, Buildup, and Deployment

An Imagery Research Paper

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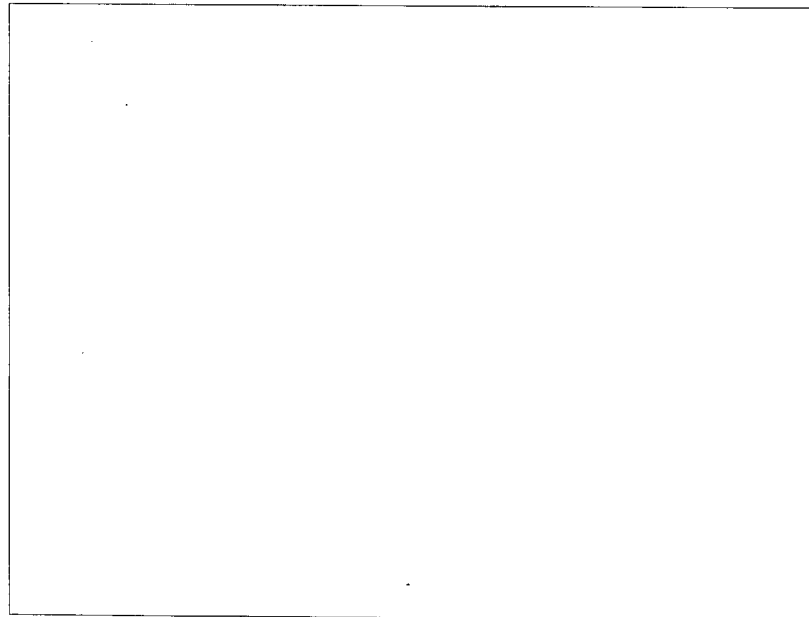
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Soviet Nondivisional Artillery: Organization, Buildup, and Deployment

*Central Intelligence Agency
National Foreign Assessment Center*

June 1978

SUMMARY

This report presents the results of a detailed photographic study of Soviet ground force nondivisional artillery units. It was prepared to improve the Intelligence Community's understanding of recent Soviet efforts to expand and improve the quality of these ground forces. Although the analysis is derived primarily from imagery, it provides a basis upon which all-source analysis can be accomplished.

During the last eight years the Soviets have nearly tripled the amount of conventional artillery assigned in direct support of army- and front-level commands. Part of this increase has occurred through the expansion of existing artillery divisions and brigades and part through the formation of new units. The Soviets have upgraded some brigades to divisions, formed new brigades, and created three new types of units that did not exist prior to 1970.

This buildup of nondivisional artillery began largely with the addition of older model guns that had been held in reserve storage. More recently, however, newer model weapons, formerly issued only to tank and motorized-rifle divisions, have been assigned to nondivisional artillery units. Moreover, within the last two years the Soviets have begun deployment of three newly developed weapons--a gun, a mortar, and a truck-mounted multiple rocket launcher--which have been assigned to nondivisional units exclusively. Both the gun and the mortar are self-propelled, large-caliber weapons.

Many of the newer-model towed weapons--D-20 and D-30 howitzers--that are being added to nondivisional units have probably come from tank and motorized-rifle divisions where these weapons are being replaced by 122-mm and 152-mm self-propelled guns. About 600 BM-21 multiple rocket launchers and 1,850 antitank guns have also been added to nondivisional artillery units since 1969. The Soviets may have produced enough of these weapons to fill the requirements for existing tank and motorized-rifle divisions. This may explain their addition to nondivisional units. At least 260 BRDM-mounted antitank guided missiles (ATGMs) also have been added to nondivisional artillery units since 1969.

The buildup of nondivisional artillery with respect to geographic area has varied. There has been a substantial buildup within the Soviet Union, but by comparison there has been little buildup in Eastern Europe. The amount of nondivisional artillery assigned to the four eastern military districts bordering China has quadrupled to about 2,700 weapons. The number of indirect-fire guns has increased from about 650 to about 1,500. Also, about 620 antitank guns, 200 ATGMs, and 350 multiple rocket launchers have been added.

In the three western military districts, the amount of nondivisional artillery has tripled to about 2,150 weapons--1,600 indirect-fire guns, 430 antitank guns, at least 35 ATGMs, and 100 multiple rocket launchers. Prior to 1970 there were only about 700 indirect-fire guns estimated for these three military districts.

We are less certain about the degree of buildup in the other military districts. We estimate these military districts currently have about 2,650 indirect-fire guns, 800 antitank guns, at least 20 ATGMs, and 180 multiple rocket launchers. Estimates for 1970 indicate there were about 900 indirect-fire guns in these military districts, but this estimate may be too low.

By comparison, the buildup of Soviet nondivisional artillery in Eastern Europe has been small. About 72 multiple rocket launchers were added to this force, but the number of indirect-fire guns there has not increased by more than about 50. We offer no explanation for this disparity in buildup.

Most of the improvements in Eastern Europe have been qualitative. These improvements include 152-mm self-propelled guns and the newest model of multiple rocket launcher, the M-1977, which have replaced older model weapons in an artillery division. We estimate that the amount of nondivisional artillery in Eastern Europe currently consists of about 470 indirect-fire guns and 72 multiple rocket launchers. We have not identified any antitank guns with nondivisional units in this area.

The information and judgments presented in this publication were derived principally from analysis of imagery. Although information from other sources of intelligence has been included, this publication does not reflect an all-source assessment and has not been formally coordinated within CIA.

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INTRODUCTION

During the late 1950s and early 1960s, the number of artillery weapons held in active Soviet units was relatively small in comparison with the overall size of their ground forces. This situation probably resulted from the Soviet military doctrine of the Khrushchev period, which ruled out sustained conventional warfare as a viable option in a conflict between major powers. Khrushchev and his advisers believed that nuclear strikes would create gaps in ground force defenses and allow large tank forces to pass through and advance into the enemy's rear area. They theorized that the massing of conventional artillery for breakthrough operations was no longer needed. As a result, many of the existing artillery weapons were retired to depots in the USSR.

After Khrushchev's fall in 1964, the Soviets modified their military doctrine to include the possibility of at least some period of conventional warfare. This change in strategy prompted them to increase the number of artillery weapons assigned to tank and motorized-rifle divisions and ultimately to expand the nondivisional artillery force. Between 1965 and 1975 the number of artillery weapons in combat divisions more than doubled to about 18,000 indirect-fire weapons. Not only did the quantity of weapons increase, but newer models of artillery, including self-propelled guns, improved the quality of the weaponry. Although improvements to divisional artillery are still under way, the buildup has begun to level off.

The Soviets did not begin to increase their nondivisional artillery forces until about 1970. But since 1970, the number of weapons in nondivisional units has almost tripled. This report describes the nature of the Soviet buildup of nondivisional artillery--specifically, the nature of buildup within different regions of the USSR and Eastern Europe, and the subordination, organization, and equipment holdings of the various types of nondivisional artillery units.

We have conducted a thorough photographic study of all Soviet facilities where nondivisional artillery is reported to exist. Most of these locations were derived from various photographic data bases. However, we also searched for units that have been reported [redacted]. [redacted] We are confident that all or nearly all major non-divisional artillery units have been located.

The certainty of our identifications and weapons holdings for each unit varies. For example, we are confident that all units along the Sino-Soviet border have been located and identified correctly. We are also quite certain of our estimated weapons holdings for these units. This is because most units along the border have all their equipment parked in the open, enabling us to obtain actual weapons counts. In addition, the frequency of good quality coverage has provided us with many looks at each unit.

In other areas our estimates are less precise, for while some units have most of their equipment parked in the open, many do not. In the latter cases, we had to estimate the number of weapons stored in sheds.

DISCUSSION

The Soviet effort to increase the size of their nondivisional artillery support began about 1970. Part of this increase occurred through the augmentation of weapons in existing units, and part through the formation of new units. Indirect-fire guns have accounted for most of the increase, having expanded in number from about 2,700 prior to 1970 to about 6,200 by 1978. Substantial increases have also occurred, however, in direct-fire antitank (AT) weapons and multiple rocket launchers (MRLs). Almost all of the estimated 1,800 AT guns, 260 ATGMs, and 700 MRLs have been added since 1969.

The buildup of nondivisional artillery began largely from the addition of older model guns that had been held in reserve storage. More recently, however, newer model weapons, formerly issued only to tank and motorized-rifle divisions, have been assigned to nondivisional artillery units. Moreover, within the last two years the Soviets have begun deployment of three newly developed weapons--a gun, a mortar, and a truck-mounted MRL-- which have been assigned to nondivisional units exclusively. Both the gun and mortar are self-propelled, large-caliber weapons. These recent trends show the Soviets are concerned with modernizing as well as expanding their nondivisional artillery force.

Improvements and Trends

Artillery Division. In building up their nondivisional artillery force, the Soviets have more than doubled the number of weapons assigned to their standard artillery division. These divisions appear to be organized and equipped much as they were at the end of World War II. The Soviet artillery division then consisted of over 300 weapons of various types and calibers, and the present division also has a large mix of over 300 weapons.

In 1970 most artillery divisions had three regiments with 54 guns each, for a division total of 162 indirect-fire guns. Through expansion, each division now has at least four regiments of up to 72 indirect-fire guns each. These four indirect-fire gun regiments are equipped predominantly with older model 130-mm M-46 guns and 152-mm ML-20 gun-howitzers that had been held in storage. However, in at least two

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divisions the ML-20s have recently been replaced by a newer model, the 152-mm D-20 gun-howitzer, and there is a regiment of 152-mm self-propelled (SP) guns in the Group of Soviet Forces, Germany (GSFG) artillery division. Also, one regiment of seventy-two 122-mm D-30 howitzers has been added to each of at least four of the artillery divisions. These guns may constitute a fifth indirect-fire gun regiment. Most of the D-20s and D-30s have probably come from tank and motorized-rifle divisions, where they have been replaced by 122-mm and 152-mm self-propelled guns.

A regiment of up to 72 MRLs has also been added to most artillery divisions. These weapons consist almost exclusively of the Soviet 122-mm 40-round BM-21. The reason for their addition to artillery divisions might be that the Soviets probably have produced enough BM-21s to fill the requirements for existing tank and motorized-rifle divisions. The only known deployments of the newest model of Soviet MRL, the M-1977, are with artillery divisions at Ussuriysk and Potsdam.

Most artillery divisions have recently acquired a regiment of up to 72 AT guns and as many as 36 BRDM-mounted antitank guided missiles (ATGMs). Most of the AT guns are the Soviet smooth bore 100-mm T-12.

Artillery Brigade. Artillery brigades have also doubled in size since about 1970. They were expanded largely through the addition of M-46s and ML-20s which had been held in storage. Only a few brigades have been observed with newer model indirect-fire weapons. Since about 1970 most artillery brigades have increased from 54 indirect-fire weapons to 90. Most brigades also have been equipped with from thirty-six to fifty-four 100-mm T-12 AT guns, and some have BRDM-mounted ATGMs.

New Types of Units. The Soviets have created three new types of nondivisional artillery units since 1970. They are a heavy artillery brigade, an independent MRL regiment, and an independent AT regiment.

The heavy artillery brigade is equipped with twenty-four 203-mm gun-howitzers and 24 heavy mortars. The first of these brigades was identified in 1973, and since then eight others have appeared. The large-caliber weapons in these brigades have been in the Soviet inventory for more than 20 years. Recent photography indicates the older weapons are now being replaced by the newly developed, large-caliber, self-propelled guns and mortars. They have already replaced some of the older models in at least three heavy brigades. The replaced weapons are evidently being retired to depots, although we have seen no evidence to confirm this. All of these brigades are located with or near Scud or Scaleboard tactical surface-to-surface missile units.

The independent MRL regiment is equipped with 54 BM-21s. Six of these regiments have been formed since 1970. Five have been deployed to military districts along the Sino-Soviet border and one to the Romanian border in the Odessa Military District. It appears likely that the

Soviets will continue to form MRL regiments as more BM-21s become available.

Five independent AT regiments have also been identified since 1970. Each of these regiments appears to be equipped with 72 T-12 AT guns, although vehicle storage capacities indicate some regiments may have more.

Buildup and Deployment

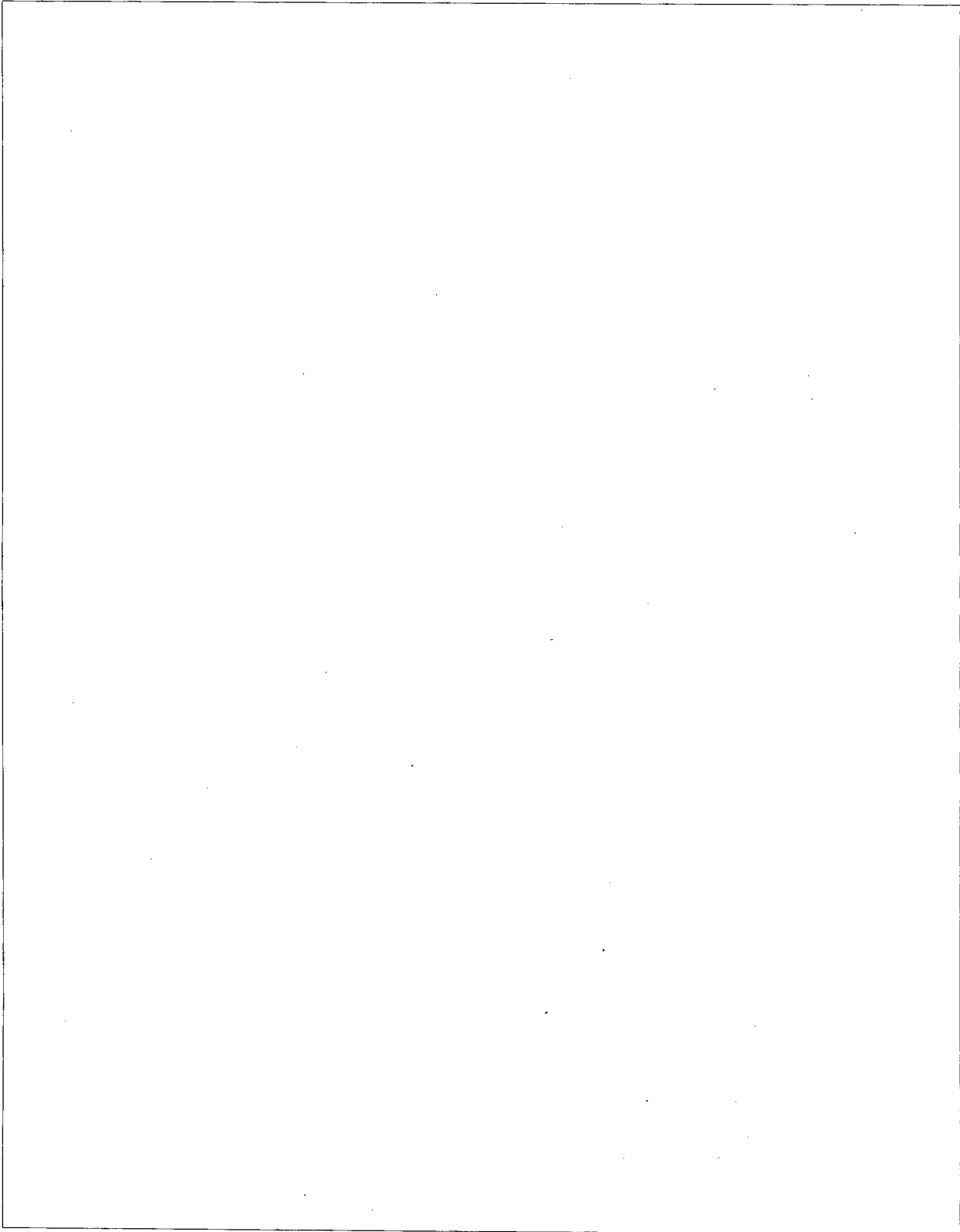
Soviet nondivisional artillery is concentrated in those areas where there is a likely threat from opposing forces. About one-fourth of the force is deployed in the three western military districts (MDs) and in the forces opposite NATO's central region. Another one-fourth is positioned in the four eastern MDs opposite China. Smaller concentrations of artillery are also found along the borders of Iran, Turkey, Norway, and Finland, and the remaining units are deployed in the Soviet interior. Nondivisional artillery units in the USSR total ten divisions, 28 brigades, nine heavy brigades, six MRL regiments, and five AT regiments. In the Group of Soviet Forces, Germany, there are one artillery division and three other units of 54 guns each. There is also a unit with 54 guns in Czechoslovakia.

Western USSR (Baltic, Belorussia, and Carpathia Military Districts).

The most concentrated deployment of nondivisional artillery is in the three western MDs, where the total number of weapons has about tripled. The number of indirect-fire guns there has more than doubled, from about 700 in 1969 to about 1,600 in 1978. We also estimate an increase of about 430 AT guns, at least 35 ATGMs, and 100 MRLs assigned to nondivisional units in these MDs. However, we are uncertain how many of the AT weapons and MRLs have been added since 1970, because DIA did not list them with nondivisional units in their 1971 Tables of Organization and Equipment (TO&E). Our own analysis suggests that there were a few of these weapons with nondivisional units in 1969, and that the total number was probably less than 100.

Most of the increase since 1970 has come from additional weapons being assigned to existing units. This addition of weapons includes the brigade at Kaliningrad being upgraded to a division. Smaller increases have come from the forming of two new brigades, one heavy brigade, and one AT regiment in Belorussia, and one AT regiment in the Baltic. The 1971 DIA order-of-battle listed two artillery divisions and three brigades in Carpathia. The two divisions there as well as one brigade at Turka still exist. There is no photographic evidence to suggest that the other two brigades--one at Rovno and one at Shepetovka--exist. In fact, there is photographic evidence to suggest that these two brigades did not exist in 1970, although a few guns were observed at both locations. A new brigade has been formed at Kovel, and a heavy brigade has

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been formed at Yemilchino. The total estimated nondivisional artillery force in these three MDs is now organized into four artillery divisions, four brigades, two heavy brigades, and two AT regiments (Figure 3).

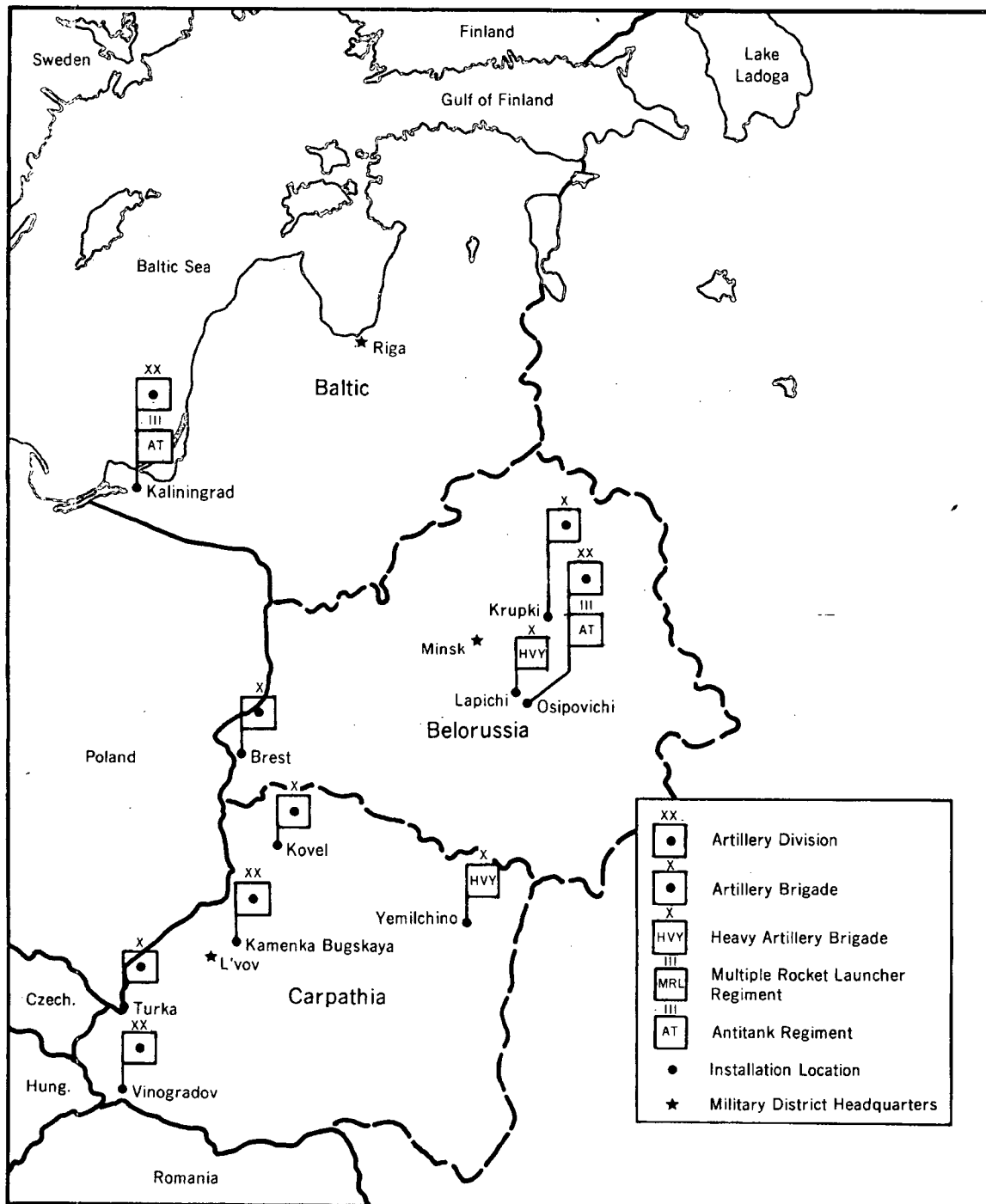


FIGURE 3. NONDIVISIONAL ARTILLERY DEPLOYMENT IN THE THREE WESTERN MILITARY DISTRICTS.

Sino-Soviet Border (Far East, Transbaikial, Siberia, and Central Asia Military Districts). The amount of nondivisional artillery in the four eastern MDs has nearly quadrupled since 1969 to over 2,700 weapons. The number of indirect-fire guns has increased from about 650 to about 1,550. Almost all of the 620 AT guns, 200 ATGMs, and 350 MRLs identified in these four MDs apparently have been added since 1969 as well. Most of the increase in indirect-fire guns has come from the forming of seven new artillery brigades and three new heavy brigades. A smaller increase is attributed to the upgrading of existing units.

Most of the newly deployed AT weapons were assigned to the one

artillery division and 13 brigades in this area. Additionally, two AT regiments with 72 guns each were newly formed. The increase in MRLs resulted from the forming of five MRL regiments and the addition of 72 MRLs to the artillery division at Ussuriysk.

Nondivisional artillery deployments along the Sino-Soviet border are concentrated in those areas where the Soviets have most of their tank and motorized-rifle divisions. About half of the force--one artillery division, six brigades, one heavy brigade, and two MRL regiments--is deployed in the Far East MD. The other half of the force is more sparsely deployed in the other three MDs (Figure 4).

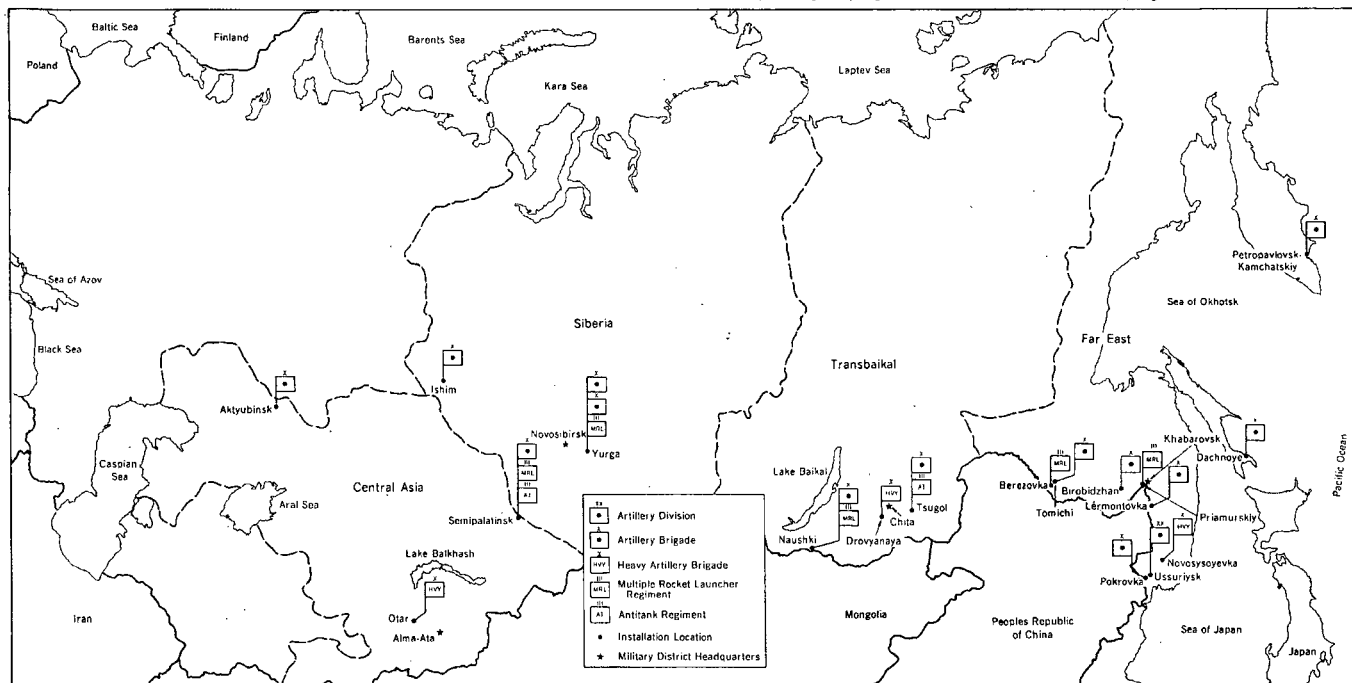


FIGURE 4. NONDIVISIONAL ARTILLERY DEPLOYMENT IN THE FOUR EASTERN MILITARY DISTRICTS (SINO-SOVIET BORDER).

Central USSR (Leningrad, Moscow, Odessa, Kiev, Transcaucasus, North Caucasus, Ural, Volga, and Turkestan Military Districts). Nondivisional artillery in the central USSR consists of five artillery divisions, 11 brigades, four heavy brigades, one MRL regiment, and one AT regiment. This amounts to about 2,650 indirect-fire guns, 800 AT guns, at least 20 ATGMs, and 180 MRLs. Comparing our current estimates []

[] suggests that the number of indirect-fire guns in this area has approximately tripled during the last eight years. Also, all of the AT weapons and MRLs have been added since 1970 []. However, this apparent buildup may not be quite as great as the comparative estimates seem to indicate, because the 1970 estimate did not include a large amount of nondivisional artillery that actually existed at that time. Several possible reasons for this exclusion are as follows:

- Photographic [] collection on the central MDs were insufficient to identify or locate all the units.
- Some of the artillery that was identified in 1970 might have appeared to be in storage, for it was parked in a fashion which did not display the unit integrity or organization of active brigades or divisions. Additionally, there was very little barracks capacity, an insufficient number of prime movers, and too little training activity to consider this artillery as a part of active Soviet forces.
- Some of the units were incorrectly subordinated to tank or motorized-rifle divisions.

Although this evidence suggests that the force has not actually tripled in the last eight years, the buildup has been considerable.

A large number of guns, prime movers, and support equipment in this area have been added to many installations which showed little, if any, activity in 1970. The parking arrangement of this equipment suggests it is now organized into active units. Vehicle sheds are also being constructed, and there has been an increase in training activity.

At most of these units there has been little increase in barracks capacity which seems to suggest that they are permanently manned by a small cadre or caretaker force. However, large tent camps are occasionally observed, which may indicate the Soviets are training a sufficient number of reservists to fully man these units in time of war.

Although the amount of nondivisional artillery in these MDs constitutes more than one third of all Soviet nondivisional artillery, it is sparsely distributed over a large geographic area (Figure 5). There are no areas of significant concentration of forces comparable to those along the Sino-Soviet border, in the Western USSR, or in the GSFG. There are only small concentrations near Soviet borders. They consist of one division and four brigades along the Turkish and Iranian borders,

and one brigade, two heavy brigades, and one MRL regiment in the western half of the Odessa MD, within 200 kilometers of the Romanian border. One artillery division, three brigades, and one heavy brigade are located in the Leningrad MD. One of these brigades is along the Norwegian border, and the other units are positioned near the city of Leningrad.

The rest of the units are deployed in the Soviet interior. These would probably be used to reinforce operations against either NATO or China, should the need arise. No nondivisional artillery has been observed in either the Ural or Volga MD.



FIGURE 5. NONDIVISIONAL ARTILLERY DEPLOYMENT IN THE CENTRAL MILITARY DISTRICTS.

Groups of Forces in Eastern Europe. The only nondivisional artillery located outside the Soviet Union is deployed in Eastern Europe against NATO. This force consists of one artillery division and three unidentified types of units of about 54 guns each in the GSFG, and one unit with 54 guns in Czechoslovakia. The total size of this force is between 450 and 500 indirect-fire guns and 72 MRLs.*

Improvements to this force since 1969 have not been nearly as great as the improvements made in units within the Soviet Union. Although MRLs have been added, there has been little change in the number of indirect-fire guns [redacted]. If the number did increase, it was by a total of no more than 54 guns. Two of the three units of unidentified type in the GSFG were upgraded from 36 to 54 guns each, either just before or just after 1970. The third unit, at Merseburg, was probably upgraded from 36 to 54 guns as well, but evidence of this is less conclusive. AT guns have not been identified with these nondivisional units, and--unlike the units in the Soviet Union--no AT regiments, independent MRL regiments, brigades, or heavy brigades have been identified here.

There have, however, been some qualitative improvements to this force. One regiment of the artillery division has been equipped with 152-mm self-propelled guns, and this division has also been equipped with the newest model of MRL, the M-1977.

The nondivisional artillery force in the GSFG is concentrated in two distinct areas. About half the tube artillery and all the MRLs are deployed in south-central East Germany at Karl Marx Stadt and Merseburg, apparently positioned against the Fulda Gap. The other half is deployed in three installations around Berlin (Figure 6).

Organization and Weapons Holdings of Nondivisional Artillery Units

Artillery Division. The largest artillery units are artillery divisions, which have from 250 to 400 direct- and indirect-fire weapons of mixed models and calibers. Ten of these divisions have been identified in the USSR and one in the GSFG. [redacted]

[redacted] Based on their size, their total number, and their location relative to other ground force units, the divisions appear to be subordinate to front-level commands.

*There are indications from sources other than photography that there may be some nondivisional artillery units in Eastern Europe which have not been located or identified from photography. A few artillery units are also present in the GSFG which have not been subordinated. The number and types of weapons in these latter units, however, suggest they belong to tank or motorized-rifle divisions.

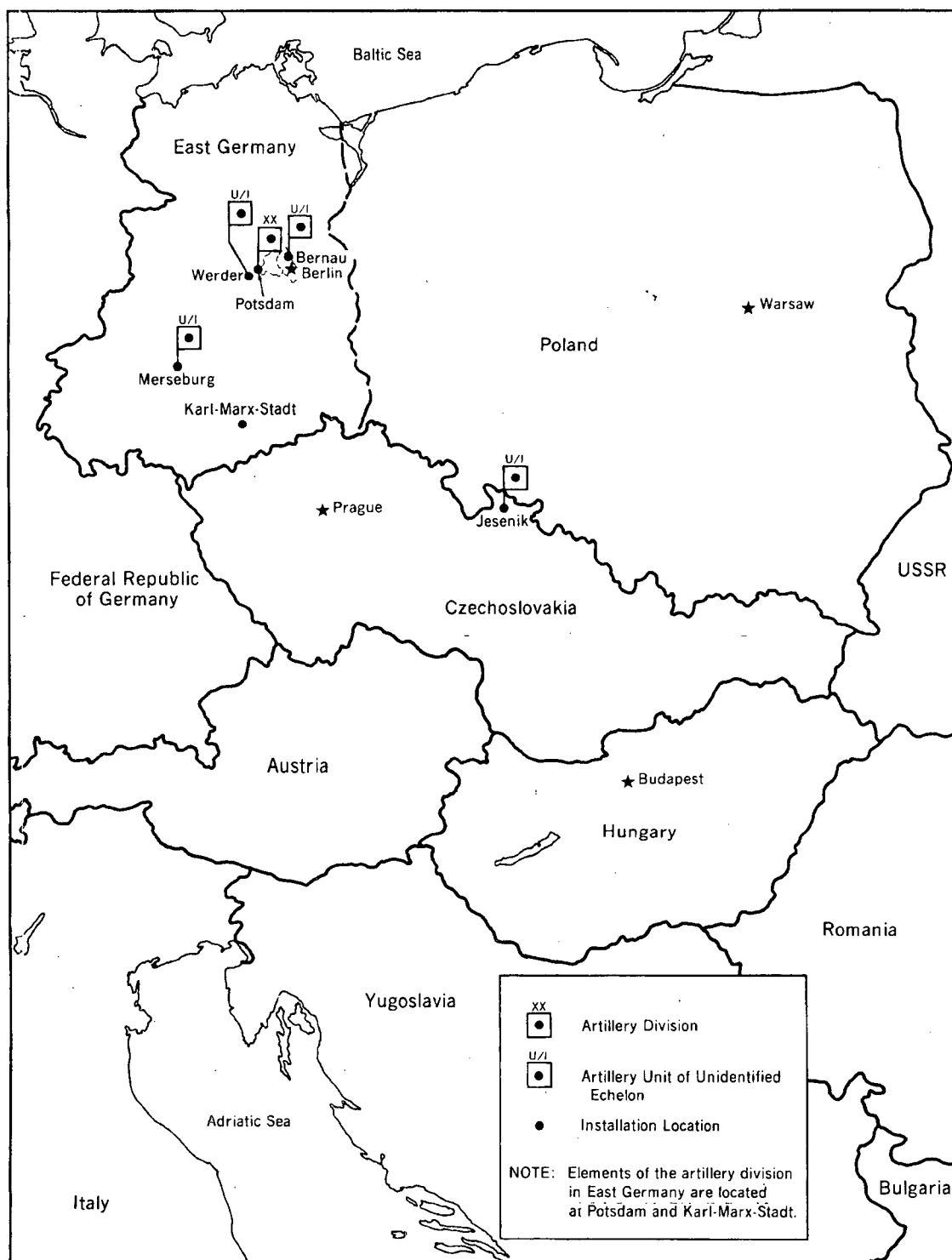
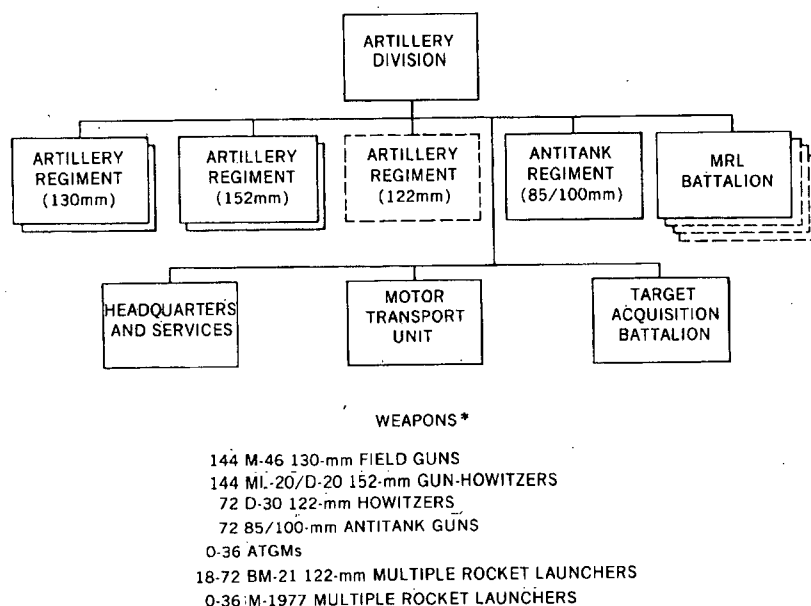


FIGURE 6. DEPLOYMENT OF SOVIET NONDIVISIONAL ARTILLERY IN EASTERN EUROPE.

The artillery divisions which have been identified apparently have minor differences in organization and weapons holdings. One reason for this may be that some divisions are being expanded more rapidly than others. Minor differences may also exist as a result of the divisions being organized according to their missions, their geographic locations, or the availability of weapons.

Despite these differences, artillery divisions have similarities in general structure and major equipment holdings, as illustrated in the organizational diagram (Figure 7). This diagram reflects not any single division but a composite based on the data derived from studying all the artillery divisions.

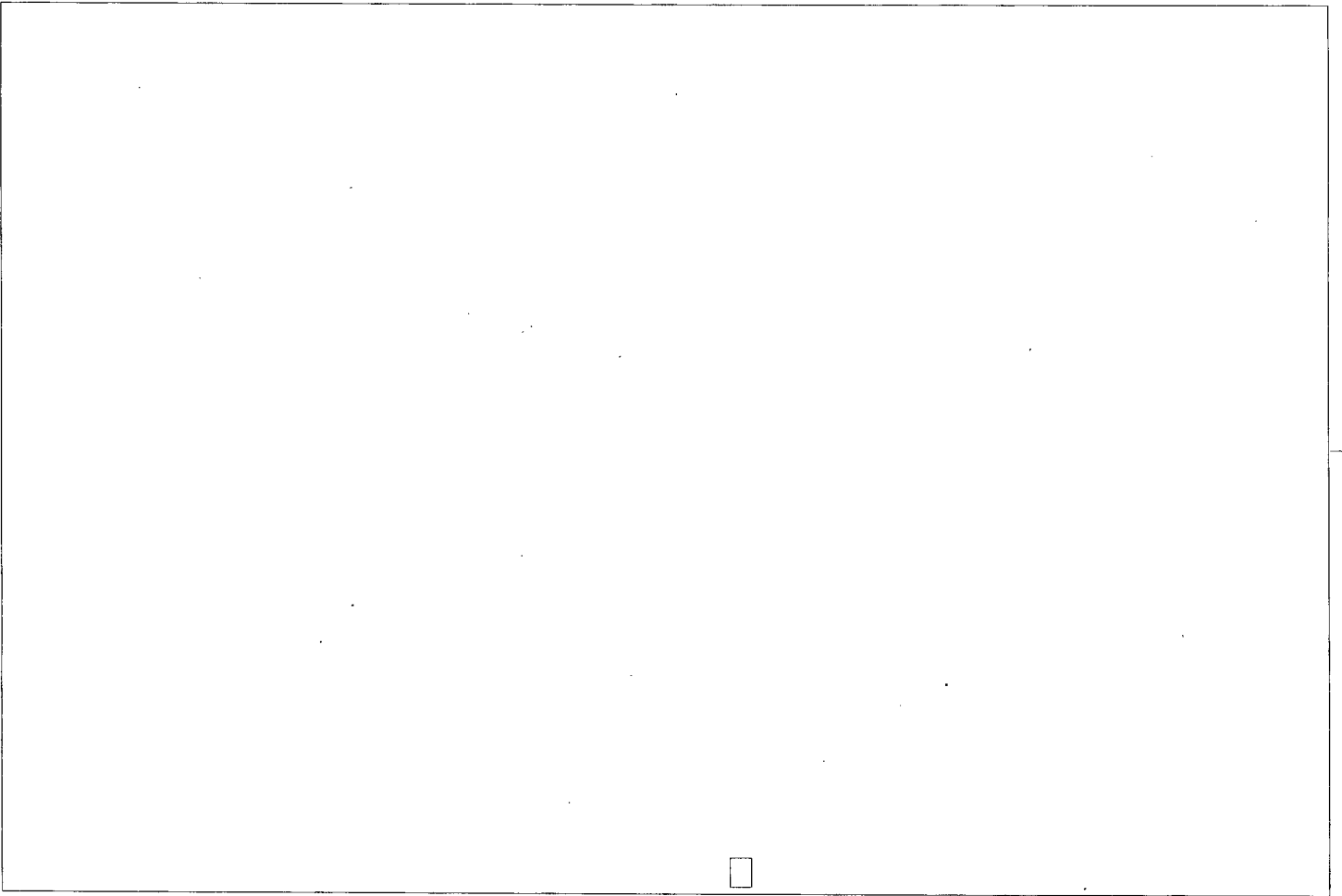


*NOTE: This organization chart represents an artillery division consisting of 72-gun regiments. Some regiments in several of the artillery divisions may possess only 54 guns.

FIGURE 7. ORGANIZATIONAL DIAGRAM AND WEAPONS OF A TYPICAL ARTILLERY DIVISION.

Although no single division provides a standard for comparison with the others, a division at Ussuriysk in the Soviet Far East is probably the most typical and useful example of the structure and equipment holdings in the diagram. This division was recently realigned and its subordinate elements relocated to a single installation. As a result of the realignment and relocation, the division has all of its weapons and equipment arranged neatly in the open, the only division which does so. Also, the division was recently reequipped with more modern weapons--D-20 gun-howitzers and M-1977 MRLs. Because of these recent changes, we assume that this division displays the characteristics the Soviets consider most desirable.

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Most divisions are equipped with two regiments of 130-mm M-46 guns, two regiments of 152-mm ML-20 gun-howitzers, and one regiment of 100-mm T-12 AT guns. A regiment with seventy-two 122-mm D-30 howitzers has also been identified in at least four divisions. It is uncertain whether these D-30 howitzers have been added as a fifth indirect-fire gun regiment to increase the divisions' firepower or whether they have been added to replace a regiment of older model weapons.

Divisions have also been found to have varying numbers of MRLs. All but two divisions appear to have at least one battalion of 18 MRLs, and some have as many as four battalions. Most of the MRLs are BM-21s; however, some divisions have a few older model BM-14s and BM-20s. The division at Ussuriysk and the division at Potsdam are each equipped with two battalions of the new MRL M-1977 and two battalions of BM-21s.

The divisions' AT regiments also have some organizational differences. Most divisions appear to have an AT regiment of at least seventy-two 100-mm AT guns. In addition, at least six AT regiments are equipped with BRDM-mounted antitank guided missiles (ATGMs). The artillery division at Ussuriysk has 36 ATGMs organized into four units of nine ATGMs each. This addition of ATGMs appears to be an upgrading trend which has not yet reached all divisions.

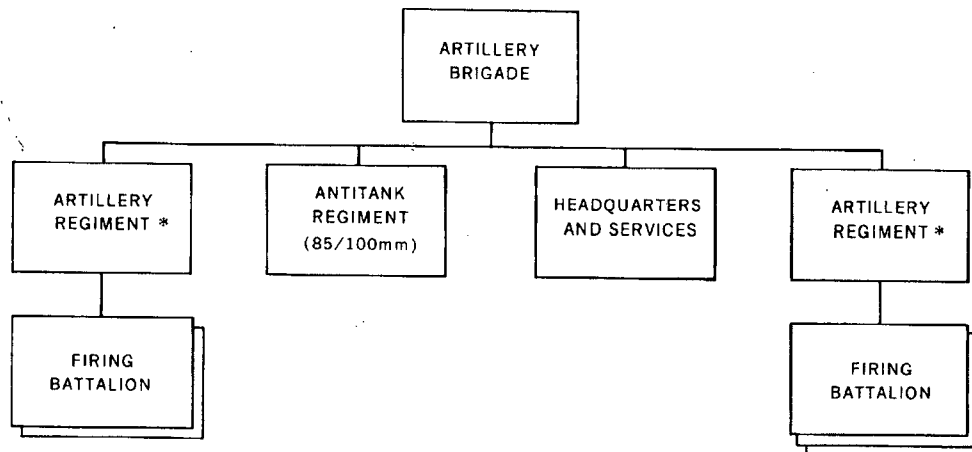
There is little information about the equipment and organization of the artillery divisions' support units. A target acquisition battalion is indicated by the fire control, surveillance, and acquisition radars which have been identified. In addition, elements of a motor transport unit have been observed at two of the divisions. Equipment which would indicate the presence of engineer, chemical defense, signal, and reconnaissance units also has been observed. We do not know if they are company- or battalion-size units. These are referred to collectively as headquarters and services rather than being shown as separate units on the organizational chart.

Artillery Brigade. The artillery brigade is the second largest nondivisional unit. It has from 80 to 150 weapons of mixed models and calibers. Twenty-eight brigades have been identified in the USSR, but none in Eastern Europe. Based on the size of the units, the number that exist, and their location relative to other ground force units, artillery brigades appear to be subordinate to army-level commands--although a few may be subordinate to fronts which do not have an organic artillery division.

Essentially, artillery brigades are scaled-down versions of artillery divisions. However, their equipment holdings are more standardized than the equipment holdings of artillery divisions and they do not have MRLs. The brigades have three battalions of eighteen 152-mm ML-20 gun-howitzers and two battalions of eighteen 130-mm M-46 field guns. These five battalions are organized into two regiments, one having two and the other three battalions. The larger regiment can consist of three 152-mm gun battalions or of two battalions of 152-mm guns and one battalion of

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130-mm guns. We have seen examples of both. Similarly, the smaller regiment apparently contains two battalions of 130-mm field guns or one battalion of each caliber. Figure 9 depicts a brigade's organization



WEAPONS

36 M-46 130-mm FIELD GUNS
54 ML-20 152-mm GUN HOWITZERS
36 OR 54 85/100-mm ANTITANK GUNS
0-27 ATGMs

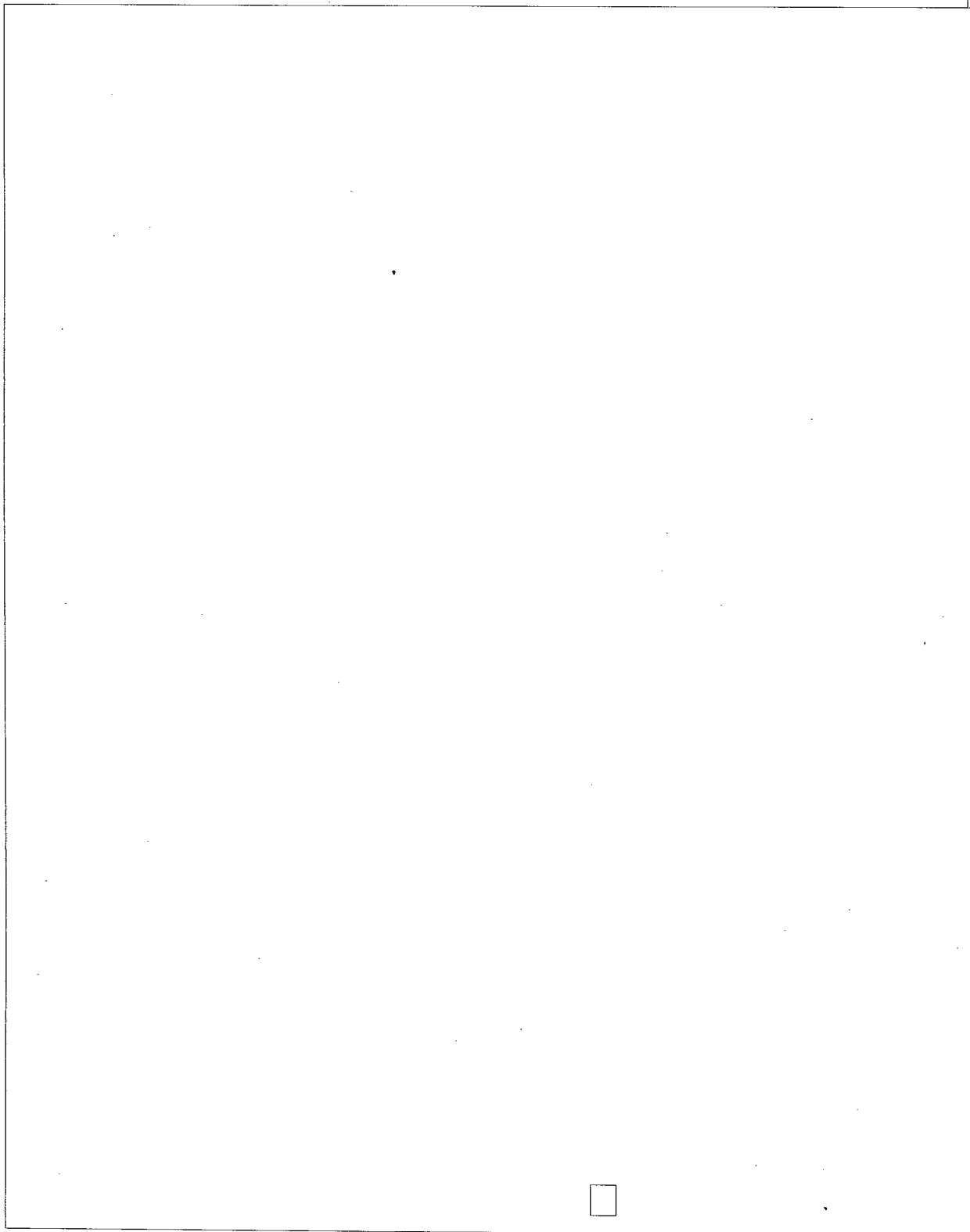
* NOTE: Some indirect-fire regiments may consist of a mixture of 130-mm field gun and 152-mm gun-howitzer battalions.

FIGURE 9. ORGANIZATIONAL DIAGRAM AND WEAPONS OF A TYPICAL ARTILLERY BRIGADE.

In addition to the indirect-fire guns, about three-fourths of the brigades have either an AT battalion of 18 guns or an AT regiment. At least 12 of the AT regiments have 36 guns organized into three battalions of 12 guns each. However, four brigades have been identified with a 54-gun regiment of three 18-gun battalions. There have also been 27 BRDM-mounted ATGMs identified in at least four of the 36-gun AT regiments. No ATGMs have been observed in the 54-gun regiments.

Artillery brigades have a number of small support units. For example, platoon- or company-size elements of chemical defense, reconnaissance, signals, and engineering equipment have been observed with artillery brigades. Each brigade is also equipped with a motor transport unit; however, the size of this unit has not been determined because it is probably maintained at reduced strength during peacetime.

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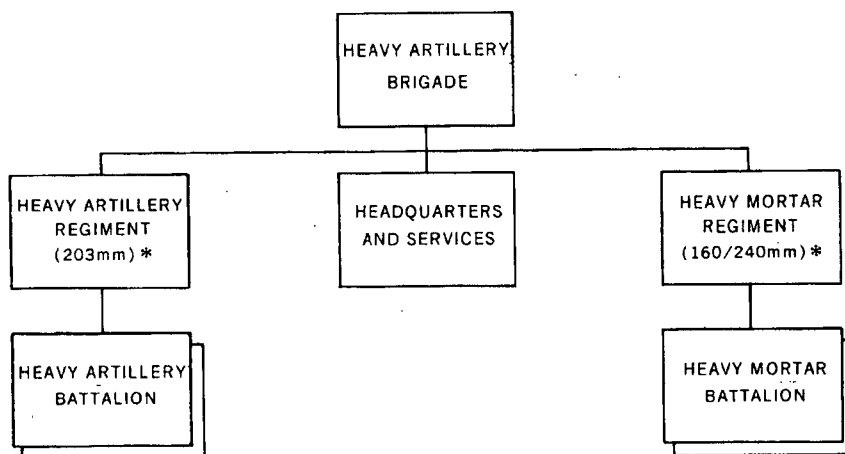


Heavy Artillery Brigade. Heavy artillery brigades have 48 weapons, consisting of heavy caliber gun-howitzers and mortars. These units have only recently been added to Soviet ground forces. The first was identified in 1973, and eight other brigades have been identified since then. All nine heavy brigades are located in the USSR. Based on the number of units and their location relative to other ground force units, they appear to be subordinate to front-level commands.

Heavy artillery brigades have two battalions of twelve 203-mm gun-howitzers each and two battalions of twelve 240-mm mortars each. These four battalions are organized into two regiments.

We are uncertain whether a regiment is made up of two battalions of the same type of weapon or of one battalion of each type of weapon. [] [] each regiment consists of one battalion of guns and one battalion of mortars. [] However, we have observed each type of weapon parked separately within the vehicle park. This parking pattern suggests that one regiment may be equipped with guns and the other with mortars. (Figures 11 [])

Heavy artillery brigades also have a number of small support units, although to date none of these units have been identified from imagery.



WEAPONS.

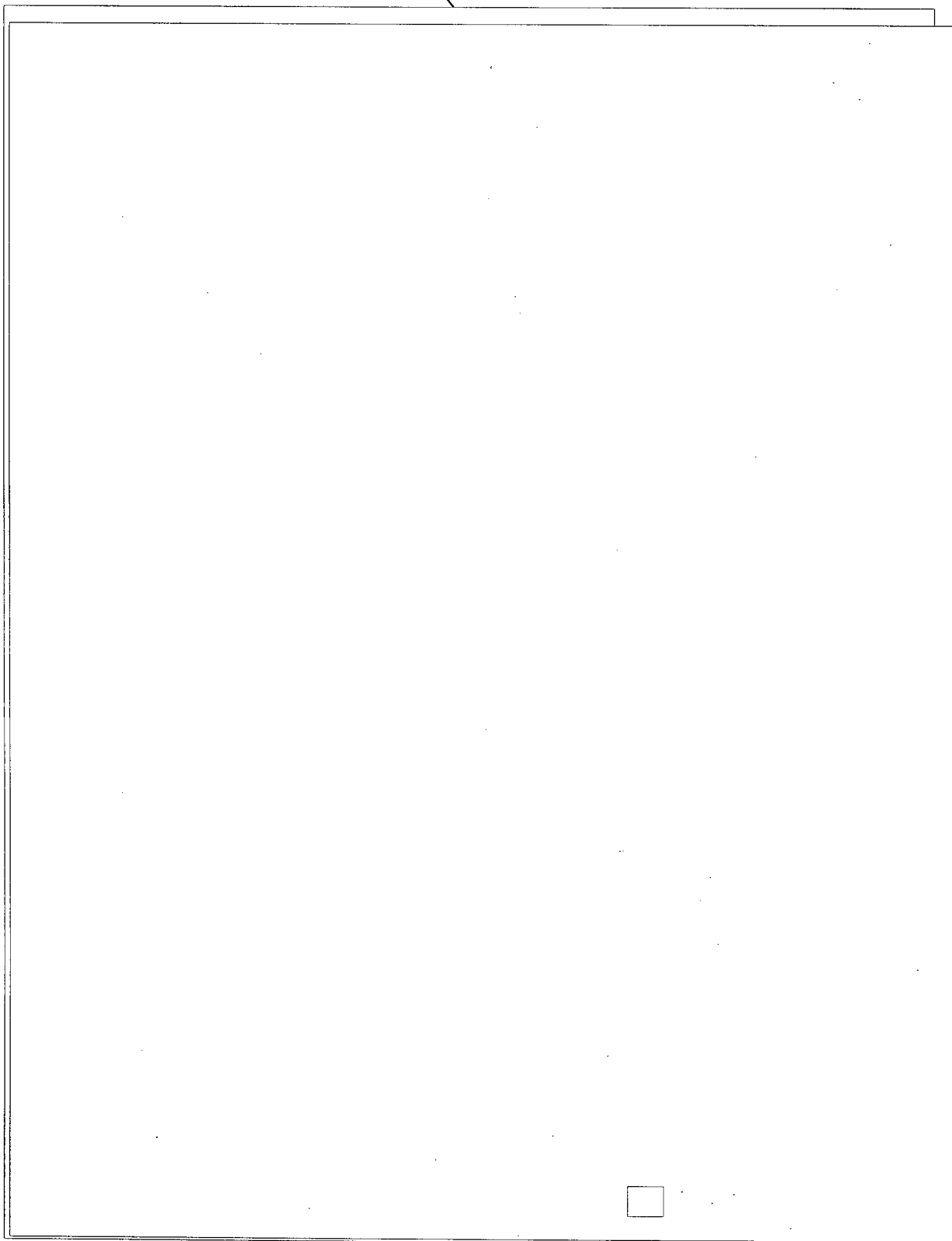
24 203-mm M-1931/1955 GUN-HOWITZERS/SP GUNS

24 160/240-mm M-160/240 HEAVY MORTARS/SP MORTARS

*NOTE: Some regiments may consist of a mix of gun-howitzers and heavy mortars.

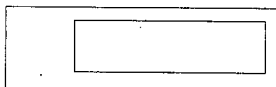
FIGURE 11. ORGANIZATIONAL DIAGRAM AND WEAPONS OF A TYPICAL HEAVY ARTILLERY BRIGADE.

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Multiple Rocket Launcher Regiment. Six independent multiple rocket launcher regiments have been identified, each having 54 BM-21 MRLs organized into three battalions of 18 launchers each. All six regiments have been formed since 1970 and appear to be subordinate to front- or army-level commanders rather than to artillery divisions. These regiments also have engineer, medical, chemical defense, and other support units, including a motor transport (MT) battalion of up to 100 cargo trucks (Figures 13 [redacted])

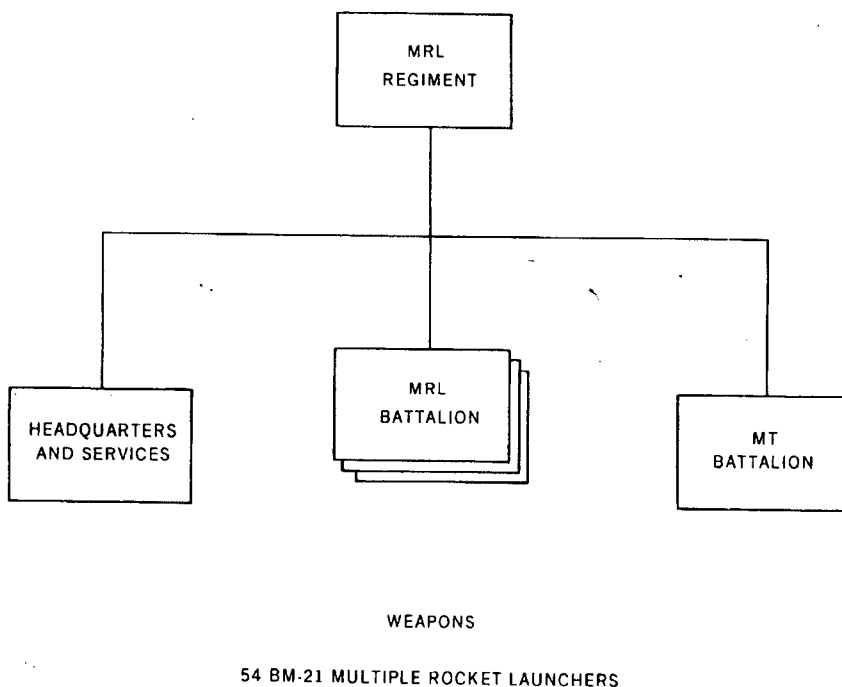


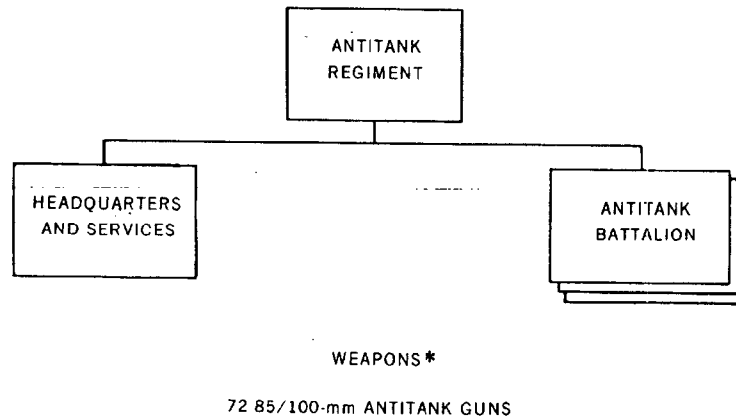
FIGURE 13. ORGANIZATIONAL DIAGRAM AND WEAPONS OF A TYPICAL MULTIPLE ROCKET LAUNCHER REGIMENT.

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Antitank Regiment. Antitank regiments appear to have a total of 72 AT guns and some may have up to 36 ATGMs. Five such regiments have been identified. Like the multiple rocket launcher regiments, these have been formed since 1970. They are housed in separately secured facilities near artillery divisions or brigades and appear to be independent units, rather than being subordinate to artillery divisions or brigades. Based on the number of regiments and their location relative to other ground force units, we believe that they are subordinate to front- or army-level commanders. An organizational chart of a typical antitank regiment is shown in Figure 15. Few support units have been observed.

At least 72 AT guns have been observed in four of the five regiments. However, the regiment at Semipalatinsk exhibits the best organizational structure and is also equipped with 32 BRDM-mounted ATGMs. Because of the lack of covered storage, all of its equipment is parked in the open



*NOTE: Some antitank regiments may consist of more than three antitank battalions and 72 field guns.

FIGURE 15. ORGANIZATIONAL DIAGRAM AND WEAPONS OF A TYPICAL ANTITANK REGIMENT.

The guns in this regiment appear to be parked in three 24-gun battalions. This is a different pattern from the organization of AT regiments that are subordinate to artillery divisions, which are organized into four 18-gun battalions. We have not been able to determine the organization of the ATGMs in independent AT regiments because a definite parking arrangement has not been observed. They are probably organized into battalions of nine ATGMs each, similar to the way they are organized in other types of units. If this is the case, the number of ATGMs in an independent AT regiment totals 36.

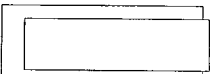
Most of the guns in AT regiments are 100-mm T-12s, although some 85-mm guns have been observed as well. Cargo trucks are used as prime movers.

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Other Nondivisional Artillery Units. Four nondivisional artillery units which appear to be structured differently from the five types already discussed have been identified in Eastern Europe. Three are located with the GSFG and the fourth is in Czechoslovakia. Each of these four units appears to support a Soviet army. If this is in fact the case, we cannot explain why Soviet armies that are directly opposite NATO have less artillery support than do most armies in the Soviet interior. Moreover, we have not identified any nondivisional artillery support with two of the five armies in the GSFG or with Soviet forces in Hungary or Poland.

The three units with the GSFG--one at Bernau, one at Werder, and one at Merseburg--and the unit at Jesenik, Czechoslovakia, are each equipped with one battalion of eighteen 152-mm D-20 gun-howitzers and two battalions of eighteen 130-mm M-46 field guns.